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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/439,915	11/12/1999	PETER SEITZ	PAFE.P-001US	2282
21121	7590	12/01/2004	EXAMINER	
OPPEDAHL AND LARSON LLP			WILSON, JACQUELINE B	
P O BOX 5068				
DILLON, CO 80435-5068			ART UNIT	PAPER NUMBER
			2612	

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/439,915	Applicant(s) SEITZ ET AL.	
	Examiner Jacqueline Wilson	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 10 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-17 is/are allowed.
- 6) ☒ Claim(s) 18-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 08/10/04 have been fully considered but they are not persuasive. The applicant is attempting to broadly claim the applicant's invention. However, it is unclear as to what the applicant is trying to claim. The applicant argues that the limitation "wherein during the longer exposure of one subset, steps (b) are performed for all other subsets" appeared in originally claimed 9 in which no objection was raised by the examiner. With reference to Paper number 8, mailed 12/19/03, the examiner rejected Claim 9 under 35 U.S.C 112, second paragraph addressing the same issues. The examiner realized that Claim 9 had enablement problems and should have been rejection accordingly. Claim 18 attempts to claim the same subject matter as Claim 9 and therefore a second non-final rejection was given correcting this problem. The applicant also directs attention to page 5, lines 11-14 where this limitation is supposedly being addressed. However, in lines 9-14, the specification discloses "During the long integration time, many pixels or rows of pixels can be interrogated and reset a first time, exposed during a second (much shorter) time interval, interrogated and reset a second time. Preferably, these operations are performed on all other pixels or rows of pixels during the long integration time of one pixel or row of pixels, so that the ratio $t = T_{\text{long}}/T_{\text{short}}$ is equal to the total number of pixels or rows of pixels of the image sensor.". Claim 18 teaches (in two interrogation runs including a long and short exposure) resetting, exposing, and reading out of a first subset, and combining the output values into a first combined output value. These steps are repeated for a

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second subset of pixels. However, the claim further includes during the longer exposure of the first subset, the step of combining is performed for the at least second subsets. This limitation states that the second subset should be performed first such that when the long exposure of the first subset is performed, the combining step of the second subset is executed. This is not taught in the specification or in the drawings. With reference to Figure 3, the applicant shows the step of reading out long exposure of a first subset, resetting of the subset, reading out short exposure of a first subset, resetting of the subset, and combining the output values. Then the steps are repeated for a second subset, and a third subset, all the way to the last subset. There is no indication of the second subset performing the step of combining during the long exposure of the first subset. Therefore, the invention is deemed nonenabling.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 18-24 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The limitations of Claim 18 is not described in the specification in a way such

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that one having ordinary skill in the art would be able to make or use the invention without undue experimentation.

Allowable Subject Matter

4. Claims 1-17 are allowed.

Regarding Claim 1, the prior art neither teaches nor fairly suggests a method for forming an image by means of an image sensor with an active area containing a plurality of pixels, comprising the steps of: in two interrogation runs performed on a first subset of pixels, resetting the first subset of pixels, exposing the first subset of pixels and reading out the output values of the first subset of pixels, wherein the two interrogation runs, a longer exposure and a shorter exposure are performed, combining **the output values into a first combined output value by means of a merging function which is truly monotonic, continuous and continuously differentiable in all the output values, wherein the merging function has the following properties: preference is given to the output value obtained from the longer exposure when the output values or a combination of the output values lie beneath given lower limit, preference is given to the output value obtained from the shorter exposure when the output values or a combination of the output values lie above a given upper limit, the merging function increases truly monotonically in the output values when the output values lie between the lower limit and the upper limit, and repeating steps (a) and (b) for at least one second subset of pixels, as claimed in Claim 1.**

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Claim 11 is substantially similar to Claim 1.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacqueline Wilson whose telephone number is (703) 308-5080. The examiner can normally be reached on 8:30am-5:00pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JW
11/16/04


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